



(TR)

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Roger WHATMORE et al.

Group Art Unit: 2816

Application No.: 10/031,239

Examiner: K. WELLS

Filed: April 2, 2002

Docket No.: 111677

For: ELECTRIC FILTER COMPRISING A PLURALITY OF THIN FILM BULK
ACOUSTIC RESONATORS

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the May 18, 2005 Office Action, and in consideration of the July 11 telephone interview with the Examiner, reconsideration of the application is respectfully requested in light of the following remarks.

Claims 1-15 are pending in this application. Applicants appreciate the courtesies shown to Applicants' representative by Examiner Wells in the July 11, 2005 telephone interview. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

The Office Action, in paragraph 3, rejects claims 1-16 [sic] under 35 U.S.C. §103(a) as being unpatentable over what is alleged to be Applicants' admitted prior art, specifically Fig. 9, in view of U.S. Patent No. 4,398,162 to Nagai, and further in view of either U.S.

Patent No. 5,185,589 to Krishnaswamy et al. (hereinafter "Krishnaswamy")¹. This rejection is respectfully traversed.

The Office Action asserts that the feature of a coplanar wave-guide structure for the top electrode of the FBAR is taught by Krishnaswamy, citing Fig. 3 and specifically elements 35 and 38. It is clear that the central signal line 35 and the two ground planes representing first and second conductive lines 38 comprise a bottom electrode of the FBAR. In other words, any purported coplanar wave-guide structure disclosed in Krishnaswamy is with regard to the bottom electrode of the FBAR rather than the top electrode, as is positively recited in independent claim 1.

Claim 1 recites an electric filter comprising a plurality of thin film bulk acoustic resonators (FBARs) each comprising a thin layer of piezoelectric material sandwiched between a top electrode and a bottom electrode, the plurality of FBARs being linked in a series/parallel connection arrangement for which the areas of the electrodes in contact with the piezoelectric layer to form the resonators are different between in series and in parallel FBARs, wherein: all the FBARs are disposed on one substrate; and the top electrode has a coplanar wave-guide structure. The feature of the top electrode of the FBARs having a coplanar wave-guide structure is neither disclosed in, nor would it have been suggested by, Krishnaswamy.

Applicants' representative presented the above argument to Examiner Wells during the July 11 telephone interview. The Examiner indicated that Applicants' argument was reasonable, and did not rebut the argument. Examiner Wells indicated that he would further consider the argument upon submission of a formal response.

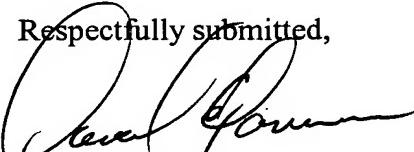
¹ Claim 16 was canceled by the October 1, 2004 Amendment.

For at least this reason, the combination of the applied references cannot reasonably be considered to teach, or even to have suggested, the combination of all of the features recited in independent claim 1. Further, dependent claims 2-15 are also neither taught, nor would they have been suggested, by the combination of the applied references for at least the respective dependence of these claims on independent claim 1, as well as for the separately patentable subject matter that each of these claims recites.

Accordingly, reconsideration and withdrawal of the rejection of claims 1-15 under 35 U.S.C. §103(a) as being unpatentable over the combination of the applied references are respectfully requested.

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-15 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number set forth below.

Respectfully submitted,

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JAO:DAT/fpw

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